

# Evaluating the Impact of a Structured Teaching Program on Knowledge and Attitude Toward the Utilization of Menstrual Cups Among Nursing Students in Chosen Nursing Colleges in Wayanad

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## Abstract

**Introduction:** The current investigation aimed to evaluate the impact of a structured teaching program on the knowledge and attitude concerning the utilization of menstrual cups among nursing students in specific nursing colleges in Wayanad. The study objectives included evaluating the knowledge level, assessing the attitude, determining the effectiveness of the structured teaching program on knowledge and attitude regarding menstrual cup usage among nursing students, and exploring any association between pre-test knowledge on menstrual cups and selected demographic variables among nursing students. **Materials and methods:** A quasi-experimental design employing a one-group pre-test and post-test approach was selected for the study. The research was carried out at DM WIMS Nursing College in Wayanad, with a sample size of 100 participants selected through a convenient sampling technique. A demographic proforma consisting of 9 items, a knowledge questionnaire consisting of 15 self-administered questions and an attitude checklist consisting of 20 statements were used for the data collection. The samples were collected and the pre-test was followed by a structured teaching program regarding the menstrual cup. The post-test was conducted after one week. **Result:** Data were tabulated and analysed using descriptive statistics and the study revealed that, the knowledge and attitude level of the subjects increased after the structured teaching programme which was also found statistically significant ( $p < 0.001$ ). There is an association found between pre-test knowledge and monthly expenditure on sanitary products. The research findings revealed that the structured teaching programme administered is effective, which shows that our research fulfilled the objectives.

**Keywords:** Menstrual cup, knowledge, attitude, structured teaching programme

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## INTRODUCTION

Menstruation is a hormonal and physiological phenomenon. In developing nations like India, menstrual practices are intertwined with various religious traditions and cultural taboos. The diverse cultural, religious, and traditional beliefs contribute to different constraints that women encounter during their menstrual cycles. Given that women commonly use cloth, absorbent pads, or tampons to manage menstrual flow, the challenge lies in the hygienic washing and disposal of these materials. Many women, due to cultural practices, resort to using rags, which often need to be reused. However, limitations such as a lack of water or privacy for washing and reusing pads can result in the

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compelled use of damp or contaminated rags. A study conducted in October 2010, titled “Sanitation Protection,” provided an in-depth analysis of the prevalent unhygienic practices in India and highlighted these challenges. The survey covered 1,033 women of menstrual age and 151 gynecologists who studied them. According to the survey results, 12% of women use sanitary napkins, while the remaining 88% resort to home-based makeshift alternatives [1–3].

The menstrual cup is a product designed for the management of menstrual flow and is asserted to be an eco-friendly and health-conscious substitute for traditional menstrual sanitary products. In the United States, the first device was patented in 1867, which shows the early vaginal cups used especially for menstrual series have never carried out a sizeable use, even though they have been reachable in developed international locations for many decades.

Reusable menstrual products, including menstrual cups, prove to be a more cost-effective option compared to disposable alternatives. In countries like India, the menstrual cup has been considered for menstrual hygiene management. Crafted from high-quality, non-toxic, and non-allergenic silicone, its inert and smooth nature helps prevent infections, allergies, rashes, and irritations. The internal wear of the cup eliminates unpleasant odours and feelings of wetness. With its ample capacity and ability to conform to the body, it can be worn for extended periods. Additionally, the menstrual cup can be sterilized or autoclaved, ensuring it is the most hygienic and secure form of menstrual protection. As a reusable device, it can last throughout a woman's menstrual cycle with careful use. There are a few clinical studies proving the actual benefits of menstrual cups and thus there is a lot to be proven and confirmed. Hence, it leaves scope for study to evaluate the menstrual cup as an alternative to conventional menstrual sanitary protection in terms of adaptability and efficacy for the user [4–9].

### **NEED FOR THE STUDY**

Millions of women and girls worldwide undergo menstruation each month, with menarche marking the onset of their reproductive years and signifying their transition to full adult female status within their communities. In developed nations, menstruation is often taken for granted, focusing on the challenge of effectively managing or containing the menstrual cycle. Menstrual hygiene management (MHM) encompasses the specific needs of girls and women during menstruation, including the knowledge, experience, materials, and facilities essential for effective and private menstrual management. In settings with inadequate water, sanitation, and hygiene (WASH) facilities, particularly in public spaces like college campuses and hostels, there exists a significant challenge for women and girls in terms of safe disposal of used menstrual materials and the ability to maintain hand hygiene. The issue of menstrual hygiene management is increasingly recognized as crucially intertwined with women's education, empowerment, and broader social development. Today, menstrual cups are an alternative to sanitary pads and have received relatively little attention among girls in low, middle and high-income countries. As the product is made of high-grade medical silicone (bio-degradable), it has the advantage of potentially being reused for up to 10 years.

A menstrual cup possesses a capacity 2–3 times greater than that of a large pad or a super tampon. Presently, there is a lack of awareness and positive disposition among menstruating individuals regarding the use of menstrual cups. Menstrual cups stand out as a superior alternative for menstrual hygiene. The process of adapting to menstrual cups improves gradually through effective counselling, health education, peer support, and regular practice. So, this study aims to provide awareness to improve their knowledge and attitude regarding the use of menstrual cups.

As per the results of the 5th National Family Health Survey (NFHS-5), 64.4% of women in the age group of 15–24 years employ sanitary napkins, 49.6% opt for cloth, 15% utilize locally prepared napkins, and merely 0.3% choose menstrual cups in India. The objective of the research was to assess the knowledge and attitude of nursing students in specific nursing colleges in Wayanad concerning the utilization of menstrual cups [10–15].

## **MATERIALS AND METHODS**

Data was collected from BSc nursing students using a convenient sampling technique. The study involved a sample size of 100 participants and employed a quasi-experimental, one-group pre-test post-test design at DM WIMS Nursing College. Data collection included a demographic proforma with 9 items, a knowledge questionnaire containing 15 self-administered questions, and an attitude checklist with 20 statements. To ensure content validity, the constructed tools underwent evaluation by three experts. A pre-test was conducted and demonstrated that all items were clear and feasible. The pre-test was administered, followed by a 30-min structured teaching programme on the use of menstrual cups. The post-test occurred after 1 week, lasting 10 min. A pilot study on 10 samples was conducted on August 30, 2022, followed by the main study on September 26, 2022, involving 100 samples. Ethical approval was obtained from the DM WIMS Nursing College's ethical committee. Descriptive and inferential statistics were employed for data analysis using SPSS software.

## **RESULTS**

The present study aimed to assess the effectiveness of a structured teaching programme on knowledge and attitude regarding the use of the menstrual cup among nursing students in selected nursing colleges at Wayanad.

### **Section 1: Description of the Demographic Variables of Nursing Students**

- The highest percentage of the subjects (64%) belongs to Christians, 24% to Hindus and 12% to Muslims.
- Regarding the monthly income of the parent, 41% belongs to above Rs. 10000, 37% belongs to Rs. 8000–10000, 20% belongs to Rs. 5000–7000 and 2% belongs to below Rs. 5000.
- Regarding monthly expenditure on sanitary products, 36% belong to below Rs. 100, 31% belong to Rs. 100–200, 30% belong to Rs. 200–300 and 3% belong to above Rs. 300.
- Menarche occurs in 63% of 12–14-year-olds, 19% of 9–14-year-olds and 18% of 15–17-year-olds.
- The currently used menstrual sanitary devices, 99% were using a sanitary pad and only 1% were using cloth.
- Regarding menstrual history, 72% belong to normal bleeding, 12% to heavy bleeding, 6% to irregular periods and 10% to painful periods.
- The prior information about menstrual cups, 87% were aware of the menstrual cup and 13% were not aware of the menstrual cup. Among that, 56% were aware through mass media, 25.28% through friends, 13.79% through family members and 4.59% through health workers.

### **Section 2: Analysis of Knowledge Regarding the Use of Menstrual Cups Among Nursing Students**

Knowledge of the subjects was assessed by the self-administered questionnaire. The majority 72 (72%) of the subjects have average knowledge, 23 (23%) have poor knowledge, 5 (5%) of them have good knowledge and none of them have excellent knowledge regarding menstrual cups.

### **Section 3: Analysis of Attitude Regarding the Use of Menstrual Cup Among Nursing Students**

The attitude of the subjects was assessed on a 5-point Likert scale, majority 99 (99%) of the subjects have an average level of attitude, 1 (1%) have a good attitude and none of them have a poor or excellent attitude towards menstrual cup.

### **Section 4: Analysis of the Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding the Use of Menstrual Cup Among Nursing Students**

The pre-test knowledge of the subjects has a mean of 7.41 and a standard deviation of 1.30 and the post-test knowledge of the subjects has a mean of 14.75 and a standard deviation of 0.50. The pre-test attitude of the subjects has a mean of 50.84 and a standard deviation of 5.41 and the post-test attitude of the subjects has a mean of 99.26 and a standard deviation of 1.13.

The knowledge level of the subjects has increased after a structured teaching programme regarding menstrual cup, which has also been found statistically significant by using a paired t-test. The calculated p-value is  $<0.001$  ( $<0.05$ ). The attitude level of the subjects has increased after a structured teaching programme regarding menstrual cup, which has also been found statistically significant by using a paired t-test. The calculated p-value is  $<0.001$  ( $<0.05$ ).

### **Section 5: Analysis of the Association Between Pre-test Knowledge and Selected Demographic Variables Among Nursing Students**

This study shows that there is a significant association between the pre-test knowledge of the subjects and their monthly expenditure on sanitary products. The association is calculated using the chi-square test and the calculated p-value is 0.035. There is no significant association found with other demographic variables such as age, religion, monthly income of the parent, age of menarche, current use of sanitary devices, menstrual history or source of information.

## **DISCUSSION**

A quasi-experimental study was conducted on knowledge and attitude regarding the use of menstrual cup among 100 nursing students. The research design employed in this study was quantitative, utilizing a quasi-experimental, one-group pre-test post-test approach. We selected 100 subjects using a convenient sampling technique. A demographic proforma consisting of 9 items, a knowledge questionnaire consisting of 15 self-administered questions and an attitude checklist consisting of 20 statements were used for the data collection. The samples were collected and used for the pre-test, followed by a structured teaching programme regarding the use of the menstrual cup, which took 30 min to complete. The follow-up assessment was carried out a week later and took approximately 10 min for completion. Both descriptive and inferential statistical analyses were applied to examine the data, and the statistical analysis was performed using SPSS software.

A pre-experimental study with a similar design was conducted by Dr. Hari Mohan Singh and Rinki Debnath, focusing on the efficacy of a planned teaching program regarding the knowledge and attitude towards the utilization of menstrual cups among adolescent girls in specific areas of Ahmedabad in 2022. The sample selection employed a purposive sampling technique, gathering data through six demographic variables and 20 questionnaires related to menstrual cups. The results indicated that the post-test knowledge score surpassed the pre-test knowledge score. Additionally, participants from the targeted areas with higher educational levels exhibited a significant association with increased knowledge about the use of menstrual cups. Consequently, the study concluded that a structured teaching program on menstrual cups was effective and could be implemented at other levels [16, 17].

## **THE INFERENCE OF THE STUDY STATISTICS**

- The knowledge of the subjects was assessed by the self-administered questionnaire, majority (72 (72%)) of the subjects have average knowledge, 23 (23%) have poor knowledge, 5 (5%) of them have good knowledge and none of them have excellent knowledge regarding menstrual cup.
- The attitude of the subjects was assessed on a 5-point Likert scale, majority (99 (99%)) of the subjects have an average level of attitude, 1 (1%) have a good attitude and none of them have a poor or excellent attitude towards menstrual cup.
- The pre-test knowledge of the subjects has a mean of 7.41 and a standard deviation of 1.30 and the post-test knowledge of the subjects has a mean of 14.75 and a standard deviation of 0.50. The pre-test attitude of the subjects has a mean of 50.84 and a standard deviation of 5.41 and the post-test attitude of the subjects has a mean of 99.26 and a standard deviation of 1.13.
- The knowledge level of the subjects has increased after a structured teaching programme regarding menstrual cup, which has also been found statistically significant by using a paired t-test. The calculated p-value is  $<0.001$  ( $<0.05$ ). The attitude level of the subjects has increased after a structured teaching programme regarding menstrual cup, which has also been found statistically significant by using a paired t-test. The calculated p-value is  $<0.001$  ( $<0.05$ ).

- This study shows that, there is a significant association between the pre-test knowledge of the subjects and their monthly expenditure on sanitary products. The association is calculated by the chi-square test and the calculated p-value is 0.35. There is no significant association found with other demographic variables such as age, religion, monthly income of the parent, age of menarche, currently used sanitary devices, menstrual history or source of information.

## CONCLUSION

The present study shows that, women in developing countries like India need effective, safe and affordable menstrual products that are also eco-friendly. Due to their lower cost and improved sanitation, menstrual cups can replace the existing methods of menstrual sanitary products. This product increases awareness and availability, which helps increase its popularity. The conclusion drawn from this study is that there is a significant effect of a structured teaching programme on knowledge and attitude regarding the use of menstrual cup among nursing students of selected nursing colleges at Wayanad. In terms of the notable disparity between the primary pre-test and post-test scores, participants exhibited a mean pre-test knowledge of 7.41 with a standard deviation of 1.30. Additionally, their pre-test attitude displayed a mean of 50.84 with a standard deviation of 5.41. Subject's post-test knowledge has a mean of 14.75 and a standard deviation of 0.50 and their post-test attitude has a mean of 99.26 and a standard deviation of 1.13. The study shows that, the structured teaching programme on menstrual cup is effective among nursing students since the p-value is <0.001 (0.05). This study shows that, there is a significant association between the pre-test knowledge of the subjects and monthly expenditure on sanitary products and the calculated p-value is 0.035. The current study concludes that, nursing education should focus on the recent advancements in menstrual hygiene practices for better quality of life. The authorities should take the initiative to assess the nursing student's knowledge and attitude towards the use of menstrual cup.

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## Conflicts of Interest

There are no conflicts of interest.

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